What is claimed is:

1. A method for testing PCB or MCM (DUT), by checking energy diffusion through boards tracks, said method comprising the steps of:

   A. Applying heat energy at entrance ports of the PCB/MCM.

   B. Measuring in time domain the rate of energy diffusion along the tracks of the board at the terminating ports.

   C. Comparing said measurements with pre-memorized values of a group of patterns that represent respective golden board results.

   D. Analyzing defects automatically on the basis of learned defect test patterns.

2. The method of claim 1 wherein the measurement is conducted in different frequencies bands.

3. The method of claim 1 wherein the DUT is before assembly.

4. The method of claim 1 wherein the DUT is after assembly.

5. The method of claim 1 wherein the measurements are consecutive, heating a single port at a time.

6. The method of claim 1 wherein the measurements are conducted at more than one port simultaneously.

7. The method of claim 1 wherein analysis process enable to identify the defect type according to the respective pattern.

8. The method of claim 1 wherein the heat is applied simultaneously at different entrance ports.

9. The method of claim 1 wherein the heating process duration is determined in accordance with the heating source type and DUT material.

10. The method of claim 1 wherein the golden board is a pre analyzed perfect PCB/MCM.

11. The method of claim 1 wherein the golden board is a simulated PCB/MCM.

12. A system for testing PCB or MCM (DUT), by checking energy diffusion through boards tracks, said method comprising the steps of:

    A. Controlled heat energy source for applying heat at certain ports of the PCB/MCM (entry ports).

    B. Thermal Imaging means for measuring in time domain the rate of energy diffusion along the tracks of the board at terminating ports.

    C. Processing means for comparing said measurements with pre-memorized values of a group of patterns that represent respective golden board results and analyzing defects automatically on the basis of learned defect test patterns.

13. The system of claim 12 further including spectral image means wherein the measurement is conducted in different frequencies bands.

14. The system of claim 12 wherein the DUT is before assembly.

15. The system of claim 12 wherein the DUT is after assembly.

16. The system of claim 12 wherein the measurements are consecutive, heating a single port at a time.

17. The system of claim 12 wherein the measurements are conducted at more than one port simultaneously.

18. The system of claim 12 wherein the measurement include thermal map.

19. The system of claim 12 wherein analysis process enable to identify the defect type according to its respective pattern.

20. The system of claim 12 wherein the heat is applied simultaneously at different entrance ports.

21. The system of claim 12 wherein the heating process duration is determined in accordance with the heating source type and DUT material.

22. The system of claim 12 wherein the golden board is a pre analyzed perfect PCB/MCM.

23. The system of claim 12 wherein the golden board is a simulated PCB/MCM.